

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the amendments above and the following remarks. By virtue of the claim amendments, Claim 21 has been added. In the originally filed application, there were two occurrences of Claim 11. The second occurrence has been deleted without prejudice or disclaimer of the subject matter contained therein, and added as new Claim 21. Claims 14 and 20 included a typographical error which the amendment has corrected. Claims 1-21 are currently pending in the present application.

No new matter has been introduced by way of the claim amendments and addition, entry thereof is therefore respectfully requested.

Drawings and Information Disclosure Statement

At the outset, the indication that the drawings and Information Disclosure Statement filed on July 31, 2001 have been respectively accepted and considered is noted with appreciation.

Claim Rejection Under 35 U.S.C. §103

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in MPEP § 706.02(j):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed

combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Therefore, if the above-identified criteria are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

The Official Action sets forth a rejection of Claims 1-20 under 35 U.S.C. §103(a) as allegedly being unpatentable over the disclosure contained in either one of Japanese Patent No. 06-077629 to Motoaki et al. or Japanese Patent No. 08-167769 to Takayuki in view of U.S. Patent No. 4,983,252 to Masui et al. This rejection is respectfully traversed because Motoaki et al., Takayuki and Masui et al., considered singly or in combination, fail to disclose the claimed invention as set forth in Claims 1, 11 and 17. Furthermore, there is no suggestion or motivation in Motoaki et al., Takayuki or Masui et al. to combine either Motoaki et al. or Takayuki with Masui et al.

With respect to Claim 1 of the present invention, the Applicant submits that the combination of either Motoaki et al. or Takayuki with Masui et al. would render the systems unworkable. There is no reasonable expectation of success of the modification of Motoaki et al. or Takayuki with Masui et al. See MPEP § 2143.02. Masui et al. actually teaches away from the use of an excimer laser for producing fine line patterns stating that “however, the resists that have conventionally been used in the step of exposure in the fabrication of printed circuit boards using either electron beams or eximer beams as exposing light are of the negative acting type and hence are not suitable for the purpose of producing a fineline pattern.” See Column 2 Lines 39-36. This statement establishes two important points. First, it clarifies that resists used for regular lasers and excimer lasers are different. Therefore, the

mere use of the excimer laser from Masui et al. in either the Takayuki or Motoaki et al. system would not actually work, according to Masui et al. Second, it teaches away from the use of an excimer laser in an environment where a regular laser is appropriate, and specifically in an environment requiring a fineline pattern.

Additionally, the Applicant submits that there is no suggestion or motivation to combine the excimer laser as disclosed in Masui et al. with the systems disclosed in either Motoaki et al. or Takayuki. The Official Action states that “it would have been obvious to one skilled in the requisite art to use an excimer laser, as taught by Masui, as the imaging laser in the process of either one of JP ‘769 or JP’629 because it is taught that electrodeposited resist can be imaged with excimer lasers having a short wavelength so as to form high density wiring patterns in a short period of time.” Emphasis added. The Official Action alleges that the motivation resides in the excimer laser’s short wavelength characteristic and ability to form high density wiring patterns in a short period of time.

However, this motivation would not suggest or motivate one of ordinary skill in the art to use an excimer laser in either the Motoaki et al. or Takayuki systems to achieve the present invention because the excimer laser is used in the present invention for an entirely different reason. The excimer laser is used for its relatively long focal length. This allows for the present invention to irradiate resist over the sloped surface without a complex focusing system thus reducing the overall cost and complexity of the system. Neither Motoaki et al. or Takayuki discusses the issue of focusing the laser over the sloped surface. Furthermore, Masui et al. does not discuss the focal length properties of the excimer laser or its possible uses and applications.

For at least the foregoing reasons, it is respectfully submitted that the Official Action fails to provide a proper motivation to combine either Motoaki et al. or Takayuki with Masui et al. and therefore fails to establish that Claim 1 is rendered obvious under 35 U.S.C. § 103. Accordingly, the Examiner is respectfully requested to withdraw the rejection of Claim 1.

With respect to Claims 11 and 17 of the present invention, the Applicant submits that either Motoaki et al. or Takayuki in combination with Masui et al. fails to disclose all of the elements of Claims 11 and 17. Furthermore, the Applicant submits that there is no suggestion or motivation to combine the excimer laser as disclosed in Masui et al. with the systems disclosed in either Motoaki et al. or Takayuki.

Motoaki et al. pertains to the production of a printed wiring board. More particularly, Motoaki et al. states the following purpose:

“to obtain a high density circuit pattern by forming a photosetting electrodeposition film on a conductive layer formed on the circuit pattern forming surface of a substrate, and irradiating the electrodeposition film with a laser beam to form a resist of hardened electrodeposition film, thereby delimiting a conducting path and an insulating path clearly with keen directivity of a laser beam.” See Abstract.

The Official Action relies only on the abstract and the figures of the Motoaki et al. patent. No translation was provided to the Applicant. Motoaki et al. does not show “a projection lens that projects an image of the aperture as a small beam spot onto the substrate, including the sloped surface” as required by Claim 11. Motoaki et al. also does not show “a telescope lens system that forms a collimated excimer laser beam to be projected onto the substrate, including the sloped surface” as required by Claim 17. Furthermore, Masui et al. does not show either of these elements.

At least by virtue of Motoaki et al.’s and Masui et al.’s failure to disclose the above-identified elements of Claims 11 and 17, the Official Action has failed to establish that

Claims 11 and 17 are rendered obvious under 35 U.S.C. § 103. More particularly, the Official Action has failed to establish a *prima facie* case of obviousness at least because Motoaki et al. and Masui et al. fail to teach or suggest all the features set forth in Claims 11 and 17 of the present invention. Accordingly, the Examiner is respectfully requested to withdraw the rejection of Claims 11 and 17.

Takayuki pertains to a method of forming a circuit using a laser. More particularly, Takayuki states the following purpose:

“to provide a method for manufacturing efficiently and comparably simply a molded part having accurate conductive circuits on its surface, especially, having independent circuits of each other, without the damaging its appearance, shape and insulating quality.” See Abstract.

The Official Action relies only on the abstract and the figures of the Takayuki patent. No translation was provided to the Applicant. Takayuki does not show “a projection lens that projects an image of the aperture as a small beam spot onto the substrate, including the sloped surface” as required by Claim 11. Takayuki also does not show “a telescope lens system that forms a collimated excimer laser beam to be projected onto the substrate, including the sloped surface” as required by Claim 17. Furthermore, Masui et al. does not show either of the elements.

At least by virtue of Takayuki’s and Masui et al.’s failure to disclose the above-identified elements of Claims 11 and 17, the Official Action has failed to establish that Claims 11 and 17 are rendered obvious under 35 U.S.C. § 103. More particularly, the Official Action has failed to establish a *prima facie* case of obviousness at least because Takayuki and Masui et al. fail to teach or suggest all the claim limitations. Accordingly, the Examiner is respectfully requested to withdraw the rejection of Claims 11 and 17.

Furthermore, it is respectfully submitted that the Official Actions has failed to provide a proper motivation, as shown above, to combine either Motoaki et al. or Takayuki with Masui et al. and therefore fails to establish that Claims 11 and 17 of the present invention are rendered obvious under 35 U.S.C. § 103. Accordingly, the Examiner is respectfully requested to withdraw the rejection of Claims 11 and 17.

For at least the foregoing reasons, Claims 1, 11 and 17 are patentably distinguishable over the disclosures contained in Takayuki, Motoaki et al. and Masui et al., considered singly or in combination. The Examiner is therefore respectfully requested to withdraw the rejection of Claims 1, 11 and 17. Claims 2-10 depend from allowable Claim 1, Claims 12-16 and 21 depend from allowable Claim 11 and Claims 18-20 depend from allowable Claim 17. Therefore, Claims 2-10, 12-16 and 18-21 are also allowable over Takayuki, Motoaki et al. and Masui et al. at least by virtue of their dependencies.

Newly Added Claim

Claim 21 has been added. Claim 21 was added to correct a typographical error in the originally filed claims. Claim 21 is allowable for at least the reasons set forth above with respect to Claims 1, 11 and 17.

Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

PATENT

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Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 08-2025.

Respectfully submitted,

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